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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,025	02/04/2002	Mark Daniel Dvorak	H0002414	4128

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EXAMINER

COX, CASSANDRA F

ART UNIT	PAPER NUMBER
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2816

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

10/067,025

Applicant(s)

DVORAK, MARK DANIEL

Examin r

Cassandra Cox

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,10,11,13-18,20 and 21 is/are rejected.
- 7) ☒ Claim(s) 3,9,12,19 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4-5, 8, 10-11, 13-16, 18, and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Larrick, Jr. et al. (U.S. Patent No. 6,026,125).

In reference to claim 1, Larrick discloses in Figure 1, a modulated ultra wideband pulse generation system, comprising: a pulse waveform generator (106) operable to generate an on-off pulse waveform; a modulating circuit (108) operable to receive a modulating signal and to modulate the on-off pulse waveform in response to the modulating signal (see column 5, lines 63-66). The same applies to claim 13.

In reference to claim 2, Larrick discloses in Figure 1 the system further comprising an antenna (not shown but receiving the output of attenuator 112).

In reference to claim 4, the pulse waveform generator circuit (106) generates a pseudorandom waveform (wherein the waveform generator can be designed to generate any suitable waveform). The same applies to claim 15.

In reference to claim 5, Larrick discloses in Figure 1 a variable bandwidth circuit (110) operable to change the bandwidth of the ultra wideband pulse (see column 6, lines 55-57). The same applies to claim 16.

In reference to claim 8, Larrick discloses in column 11, lines 28-41 that the modulating circuit may comprise a pulse position modulator operable to selectively delay the on-off pulse waveform in response to a modulating signal (this is seen to be the inherent operation of any pulse position modulator). The same applies to claim 18.

In reference to claim 10, Larrick discloses in column 11, lines 28-41 that the modulating circuit may comprise an on-off keying modulator (this is the same as Amplitude Shift Keying, see column 1, lines 24-32) operable to selectively pass or suppress the pulse in response to a modulating signal (this is seen to be the inherent operation of any on-off keying modulator). The same applies to claim 20.

In reference to claim 11, Larrick discloses in column 11, lines 28-41 that the modulating circuit may comprise a phase modulator operable to selectively change the phase of the waveform in response to a modulating signal (this is seen to be the operation of the pulse width modulator). The same applies to claim 21.

In reference to claim 14, Larrick discloses in column 1, lines 55-66 the step of generating a modulating signal.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2, 4, 8, 10-11, 13-15, 18, and 20-21 are rejected under 35 U.S.C.

102(e) as being anticipated by Low et al. (U.S. Patent No. 6,456,221).

In reference to claim 1, Low discloses in Figure 1, a modulated ultra wideband pulse generation system, comprising: a pulse waveform generator (102) operable to generate an on-off pulse waveform (111); a modulating circuit (105) operable to receive a modulating signal (108) and to modulate the on-off pulse waveform in response to the modulating signal (see column 4, lines 32-38). The same applies to claim 13.

In reference to claim 2, Low discloses in Figure 1 the system further comprising an antenna (101).

In reference to claim 4, the pulse waveform generator circuit (102) generates a pseudorandom waveform (see column 4, lines 8-16, wherein the waveform generator can be designed to generate any suitable waveform). The same applies to claim 15.

In reference to claim 8, Low discloses in column 7, lines 10-15 that the modulating circuit may comprise a pulse position modulator operable to selectively delay the on-off pulse waveform in response to a modulating signal (this is seen to be the inherent operation of any pulse position modulator). The same applies to claim 18.

In reference to claim 10, Low discloses in column 5, lines 63-65 that the modulating circuit may comprise an on-off keying modulator operable to selectively pass or suppress the pulse in response to a modulating signal (this is seen to be the inherent operation of any on-off keying modulator). The same applies to claim 20.

In reference to claim 11, Low discloses in column 8, lines 22-32 that the modulating circuit may comprise a phase modulator operable to selectively change the

phase of the waveform in response to a modulating signal (this is seen to be the operation of the pulse width modulator). The same applies to claim 21.

4. Claims 1, 4-5, 8, 13-16, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Lysejko et al. (U.S. Patent No. 6,298,246).

In reference to claim 1, Lysejko discloses in Figure 10, a modulated ultra wideband pulse generation system, comprising: a pulse waveform generator (900) operable to generate an on-off pulse waveform; a modulating circuit (910) operable to receive a modulating signal and to modulate the on-off pulse waveform in response to the modulating signal (see column 19, lines 1-4). The same applies to claim 13.

In reference to claim 4, the pulse waveform generator circuit (900) generates a pseudorandom waveform (wherein the waveform generator can be designed to generate any suitable waveform). The same applies to claim 15.

In reference to claim 5, Lysejko discloses in Figure 10 a variable bandwidth circuit (840) operable to change the bandwidth of the ultra wideband pulse (see column 19, lines 4-6). The same applies to claim 16.

In reference to claim 8, Lysejko discloses in column 19, lines 1-4 that the modulating circuit may comprise a pulse position modulator operable to selectively delay the on-off pulse waveform in response to a modulating signal (this is seen to be the inherent operation of any pulse position modulator). The same applies to claim 18.

In reference to claim 14, Lysejko discloses in column 19, lines 1-2 the step of generating a modulating signal.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6-7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larrick, Jr. et al. (U.S. Patent No. 6,026,125) in view of Grunwell (U.S. Patent No. 5,499,392).

In reference to claim 6, Larrick discloses all the limitations of the claim as mentioned above with reference to claim 1, except Larrick does not disclose that the variable bandwidth circuit (110) is a lowpass filter. Grunwell discloses in Figure 2 a lowpass filter. Since Larrick does not disclose the particular type of bandpass filter used, any kind can be used (including lowpass) dependent on the particular bands that are considered out-of-band or undesirable (see Larrick column 6, lines 55-57). Therefore, it would have been obvious to one skilled in the art at the time of the invention that the lowpass filter having a variable bandwidth disclosed by Grunwell could be used in the circuit of Larrick as the bandpass filter (110). The advantage being that the lowpass filter of Grunwell is able to eliminate the need for a large value capacitor and therefore causes a reduction in size and cost (as disclosed by Grunwell in column 2, lines 7-25).

In reference to claim 7, Grunwell discloses in Figure 2 that the lowpass filter comprises a resistor-capacitor circuit (40, 41, 42) wherein at least one of the resistor and capacitor are variable (see ABSTRACT). The same applies to claim 17.

***Allowable Subject Matter***

7. Claims 3, 9, 12, 19 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: Claim 3 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 2 wherein the circuit further comprises a capacitor (230) placed between the antenna (231) and the modulating circuit in combination with the rest of the limitations of the base claims and any intervening claims. Claims 9 and 19 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 2 wherein the pulse position modulator (208) comprises a resistor-capacitor lowpass filter (210, 211, 212) having a time constant that is varied in response to the modulating signal in combination with the rest of the limitations of the base claims and any intervening claims. Claims 12 and 22 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 2 wherein the phase modulator (225) having an exclusive or (XOR) gate (227) in combination with the rest of the limitations of the base claims and any intervening claims.



***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

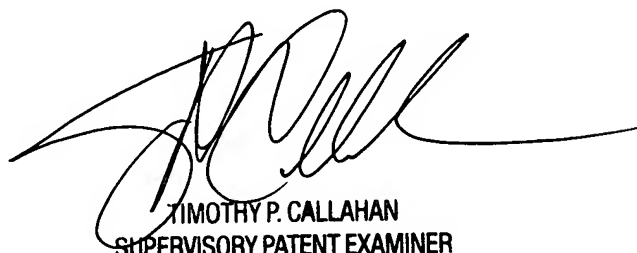
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cassandra Cox whose telephone number is 703-306-5735. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 5:30 PM and on alternate Fridays from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (703)-308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

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March 27, 2003



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